

**REMARKS/ARGUMENTS**

Claims 1-11 stand in the present application. Reconsideration and favorable action is respectfully requested in view of the following remarks.

In the Office Action, the Examiner has rejected claims 1-11 under 35 U.S.C. § 102(e) as being anticipated by Shanahan et al. ("Shanahan"). Applicants respectfully traverse the Examiner's § 102(e) rejection of the claims.

Applicant's invention is directed to methods and an apparatus for generating and updating a concept dictionary in respect of an information system and for using that concept dictionary to assist in selecting queries and query terms for use in interrogating the information system. A lexical reference source is used to generate queries semantically related to a query entered by a user, and the answers returned for each query are analyzed to determine semantic relationships between the queries.

More particularly, Applicant's independent claims read as follows:

1. A method of generating a concept dictionary for use in querying an information system, comprising:
  - (i) receiving an information search criterion;
  - (ii) deriving from said received search criterion, using a lexical reference source, at least one different search criterion having related meaning to said received search criterion;
  - (iii) identifying a set of information in said information system relevant to said received search criterion and a different set of information in said information system relevant to said at least one derived search criterion;
  - (iv) analyzing the identified sets of information and deriving from similarities and differences therebetween relationships between said received search criterion and

said at least one derived search criterion in the context of said information system; and

(v) storing, in a concept dictionary, information relating to said received and said at least one derived search criterion and to respective derived relationships therebetween, for use in querying said information system.

10. A method of accessing sets of information stored in an information system using information search criteria stored in a concept dictionary generated for the information system according to the method in claim 1, further comprising:

- (a) selecting a first information search criterion;
- (b) using a search engine to identify one or more sets of information in the information system relevant to said first information search criterion; and
- (c) selecting at least one further information search criterion from search criteria stored in the concept dictionary, semantically related to said first information search criterion according to information stored in the concept dictionary, according to whether a more general, a more specialized or an equivalent search is required.

11. An information retrieval apparatus for accessing sets of information stored in an information system, said apparatus comprising;

an input for receiving an information search criterion;

deriving means for deriving from said received search criterion, using a lexical reference source, at least one different search criterion having related meaning to said received information search criterion;

retrieval means for identifying a set of information in said information system relevant to said received search criterion and a different set of information in said information system relevant to said at least one derived search criterion;

analysis means for analyzing said identified sets of information and deriving from similarities and differences therebetween relationships between said received search

criterion and said at least one derived search criterion in the context of said information system; and

updating means for storing, in a concept dictionary, information relating to said received and said at least one derived search criterion and to respective said derived relationships therebetween, for use in querying said information system.

Since the cited reference does not teach or suggest all of the limitations in each of the independent claims, claim 1 and its dependent claims, and claims 10 and 11 are not anticipated, as will be explained in greater detail below.

With respect to claim 1 Shanahan does not teach or suggest at least element (iv) which requires "analyzing the identified sets of information and deriving from similarities and differences therebetween relationships between said received search criterion and said at least one derived search criterion in the context of said information system." The Examiner cites to Shanahan at paragraphs [0513], [0527], [0366] and the Abstract for teaching this element. See Office Action at pages 3-4. Applicant respectfully disagrees. The Abstract of Shanahan is directed to describing the auto-completion and auto-correction features of the disclosed system, and nowhere is there mentioned "analyzing identified sets of information and deriving from similarities and differences therebetween relationships between said received search criterion and said at least one derived search criterion" as required by claim 1.

Nor does cited paragraph [0366] teach or suggest this element of claim 1. The text of Paragraph [0366] is associated with Figure 36 of Shanahan which shows and describes a "Categorizer" which has nothing to do with "analyzing identified sets of information and deriving from similarities and differences therebetween relationships

between said received search criterion and said at least one derived search criterion" as required by claim 1.

The Examiner's citation to paragraph [0513] is also inapposite to the above described limitation of claim 1. The text of Paragraph [0513] is associated with Figure 51 of Shanahan which shows and describes a flow chart of the auto-correcting feature of the disclosed system. Nowhere in the flow chart of Figure 51 nor the description of the flow chart in paragraph [0513] is there any mention or even a suggestion of "analyzing identified sets of information and deriving from similarities and differences therebetween relationships between said received search criterion and said at least one derived search criterion" as required by claim 1.

Finally, the Examiner's citation to paragraph [0527] also does not teach or even suggest this limitation of claim 1. Paragraph [0527] describes alternative embodiments for ranking information providers to be used in carrying out the directed search. See Shanahan at paragraph [0526] and Figure 53. Such a ranking of information providers has nothing to do with "analyzing identified sets of information and deriving from similarities and differences therebetween relationships between said received search criterion and said at least one derived search criterion" as required by claim 1.

Accordingly, claim 1 and its respective dependent claims patentably define over Shanahan which does not teach or even suggest at least element (iv) of claim 1. Apparatus claim 11 (which corresponds to method claim 1) and method claim 10 patentably define over Shanahan for the same reasons given above with respect to claim 1. Indeed, the Examiner states that "[c]laims 10 and 11 are rejected on the same basis as claim 1." See Office Action at page 4. It should be clear that Shanahan does

not teach or suggest the analysis means of claim 11 for the same reasons it does not teach or suggest element (iv) of claim 1. Similarly, Shanahan does not teach or suggest element (c) of claim 10 since as demonstrated above the Examiner's cited portions of Shanahan have nothing to do with a "first information search criterion" and "at least one further information search criterion . . . semantically related to said first information search criterion . . . " as required by claim 10.

In support of the Examiner's allegation that all of the present claims are anticipated, the Examiner provided comments, in the "Response to Arguments" section of the Office Action, purporting to refute Applicant's patentability arguments filed in response to the previous Office Action on January 24, 2008. However, the Examiner's comments miss the point in refuting what the Examiner terms Applicant's Arguments #1, #2 and #3. See Office Action at pages 6-8.

With respect to Argument #1, presented to the Examiner in the last filed Amendment, the Examiner appears to be alleging that this argument is not persuasive simply because the phrase "*respective search results obtained when using a received search criterion and a second search criterion derived from this*" does not appear in this precise form in present claim 1. Indeed the Examiner has underlined the words "a second search criterion" to imply that these are the significant words that appear in the argumentation but are not recited in the claim. However, Applicant merely paraphrased the actual claim phrase "*at least one different search criterion*" as the "*second search criterion*" because that is its clear meaning in the claim. Does the Examiner seriously dispute that "at least one different search criterion" as required by the claim can be described as a "*second search criterion*" which was derived from the received search

criterion, also as required by the claim? This is the explicit claim language stated in (ii) of Claim 1. In no way did Applicant's argumentation imply that these words were in the claim in this precise form – instead, the argument simply described (in very slightly paraphrased and thus easier-to-understand terms) a limitation that is present in claim 1 for which Shanahan has no corresponding teaching.

In order to make it absolutely clear to the Examiner that the argumentation applies directly and unambiguously to the claim wording, Applicant has re-written the relevant paragraph to include the precise wording from the claim rather than the previously paraphrased explanations. Thus, according to element (iv) of claim 1 the relationship between a "received search criterion" and "at least one derived search criterion" are derived *from looking at similarities and differences between the respective sets of information identified using the respective search criteria*, rather than simply from comparing the respective search criteria. The Examiner has not made it clear if/where this particular step can be found in Shanahan. None of the Examiner's cited paragraphs of Shanahan teaches or suggests analyzing the different sets of information identified when using a received search criterion and a different search criterion having related meaning that has been derived from this.

With respect to Argument #2, the Examiner refers to the excerpt from Applicant's previous argumentation stating the following:

*"But the first and second questions in Shanahan are not then used for the same purposes as the "respective search criteria" according to applicant's method as claimed."*

In a similar manner to the response to Argument #1, the Examiner alleges that this argument is not persuasive because the phrase relied upon is not in Claim 1. However,

Applicant's argument was provided in response to the Examiner's apparent belief that the "*first question*" and the "*second question*" in Shanahan correspond exactly to the "*received search criterion*" and the "*at least one different search criterion*" required by present claim 1. For such a belief to lead to a finding of anticipation, it would have been necessary for Shanahan to have taught a method involving the same process being carried out in respect of its first and second questions as the applicant's method carries out in respect of the "*received search criterion*" and the "*at least one different search criterion*." As Applicant's argument clearly demonstrated, Shanahan teaches no such method.

According to the precise wording of present claim 1, once (i), (ii) and (iii) have been performed (resulting in the identification of a set of information in said information system relevant to the received search criterion and a set of information in said information system relevant to the at least one derived search criterion), the method continues at (iv) with:

*"analyzing the identified sets of information and deriving from similarities and differences therebetween relationships between said received search criterion and said at least one derived search criterion in the context of said information system;"*

and the method is completed at (v) by:

*"storing, in a concept dictionary, information relating to said received and said at least one derived search criterion and to respective derived relationships therebetween, for use in querying said information system."*

It is therefore clear and unambiguous from the wording of present claim 1 itself that the two sets information identified in (iii) are then analyzed in (iv) in order to determine

relationships between the received search criterion and the at least one derived search criterion in the context of the particular information system in respect of which the "identifying" has been performed. The relationships thus derived between the received search criterion and the at least one derived search criterion are explicitly stated to be derived from similarities and differences between the two sets of information that were identified in (iii) and are then analyzed in (iv).

Instead of this, Shanahan teaches using the first and second questions in the following way: Shanahan teaches expanding or generalizing the scope of the "first question" using knowledge (that must therefore already be available to the system) that words or expressions (e.g., "SURGICAL PROCEDURE" or "BODY ORGAN") in the "second question" are more generic than the corresponding words or expressions (e.g., "ABLATION" or "KIDNEY") in the "first question." Thus, Shanahan does not teach a method involving the same process being carried out in respect of its first and second questions as Applicant's method is explicitly stated to carry out in respect of the "received search criterion" and the "at least one different search criterion." Shanahan therefore does not anticipate present claim 1 (nor the other present claims for similar reasons).

With respect to Argument #3, the Examiner refers to the excerpt from Applicant's previous argument stating the following:

*"There is no teaching in Shanahan of analyzing information identified as a result of processing the respective questions in order to determine relationships between the questions themselves, let alone in the context of a particular information system (i.e. the information system in respect of which the "identifying" step has been performed)."*



Again, the Examiner appears to believe that this argument is not persuasive because certain phrases from the argument do not appear in the same precise form as they appear in present claim 1. Again, as explained in Applicant's "Comments in relation to Examiner Response to Argument #2," the Examiner should understand that Applicant's argument was provided in response to the Examiner's apparent belief that the "*first question*" and the "*second question*" in Shanahan correspond exactly to the "*received search criterion*" and the "*at least one different search criterion*" in present claim 1, and the Examiner should also understand that her reasoning would only have led justifiably to a finding of anticipation if it had been possible to demonstrate that Shanahan taught a method involving the same process being carried out in respect of its first and second questions as the applicant's method carries out in respect of the "*received search criterion*" and the "*at least one different search criterion*." Again, as Applicant's argumentation clearly demonstrated, Shanahan teaches no such method, and therefore does not anticipate present claim 1 (nor the other present claims for similar reasons).

Therefore, in view of the above amendments and remarks, it is respectfully that the application be reconsidered and that all of claims 1-11, standing in the application be allowed and that the case be passed to issue. If there are any other issues remaining which the Examiner believes could be resolved through either a supplemental response or an Examiner's amendment, the Examiner is respectfully requested to contact the undersigned at the local telephone exchange indicated below.

MARTIN et al  
Appl. No. 10/549,365  
October 30, 2008

Respectfully submitted,

**NIXON & VANDERHYE P.C.**

By: \_\_\_\_\_



Chris Comuntzis  
Reg. No. 31,097

CC:lmr  
901 North Glebe Road, 11th Floor  
Arlington, VA 22203-1808  
Telephone: (703) 816-4000  
Facsimile: (703) 816-4100